

**CONFIDENTIAL**~~SECRET~~Service Contract  
Work Order Requests

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JUST	<u>22</u>	NEXT REV	<u>2010</u>	AUTH	NR 73-2

Date: 17 April 1958

TO : Chief, Research and Development Branch, OC-E

FROM: Chief, ELINT Activities Branch, OC-SP

1. Description of work requested: Fabrication of 10 each transistorized video amplifiers for use as spares with the VR-4 system. The units should not be potted, but the amplifier boards should be securely mounted to the case to prevent damage. The finished product should meet the specifications attached in all respects.

25X1

## 2. List drawings, sketches, or samples accompanying requests:

- a. Electrical specifications
- b. Schematic
- c. Engineering drawings (mechanical)  
(These items are available in Room 1414, Curie Hall).

Requested by

Chief, SP/EA

Contractor's Price estimate

\$5405

Contractor's Delivery estimate

4 August~~days after receipt of order.~~

Estimate accepted by

can.Work Order No. 2

issued

Contractor

For further information, please  
contact 1414  
Curie Hall, 

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SPECIFICATIONS FOR AMPLIFIERS:

1. Electrical:

- a. Sensitivity: -42 dbm  $\pm$ 2dbm with 1 ms. pulse
- b. Bandwidth: 50 cps. to 1 mcs.
- c. Power Consumption: Total 60 milliwatts
- d. No. of Transistors: 12
- e. Pulse stretch: 30 to 50
- f. Output impedance: 30,000 ohms
- g. Output level: Approximately 3 volts RMS. with a  
-42 dbm input

2. Physical:

- a. Size: 5 $\frac{1}{2}$  in. x 1 $\frac{1}{2}$  in. x 15/16 in.  
(excluding front panel)
- b. Weight: 3 $\frac{1}{4}$  ounces
- c. Input Connector: IPC 46025
- d. Output Connector: Winchester Receptacle SMRE 14S-G

3. The amplifiers should be constructed following the drawings supplied. Printed circuit techniques should be used throughout, and the amplifier should be mounted firmly in the metal case to prevent damage. Care should be taken in assembling the units to insure a proper match between the rear receptacle and the fixed plug on the auxiliary recorder.

4. The completed units should be tested in conjunction with the recorder to insure that the above specifications have been met.

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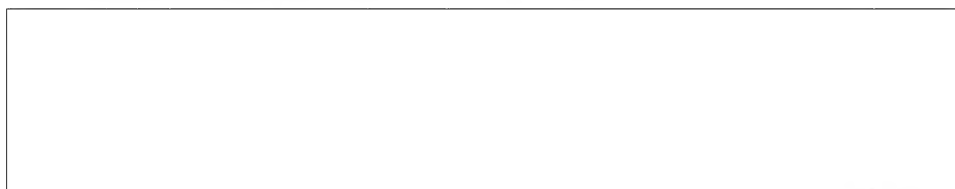
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FABRICATION OF TRANSISTORIZED VIDEO AMPLIFIERS

I. Requirements.

A. General

1. The transistorized amplifier unit will incorporate a pulse amplifier and a separate audio preamplifier as described in the attached schematic.
2. Etched circuitry will be used throughout the amplifier and all parts will be of the miniature or subminiature configuration. The transistors will receive an incoming inspection to insure the use of those having a 12 db minimum noise figure and a minimum beta of 20 as claimed by the manufacturer. The transistors will be mounted in clips and the clips will be grounded.
3. A 9 pin receptacle at the back of the unit will accomodate all connections to the amplifier with the exception of the input connection.
4. The sensitivity will be such that accurate recording of



The original measurement was made by feeding the generator output to an IN23B crystal contained in a model PRD-613 crystal holder.

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B. Specific (Electrical)

1. Sensitivity:

2. Bandwidth:

3. Power Consumption:

Total 60 milliwatts

4. No. of Transistors:

12

5. Pulse Stretch:

30 to 50

6. Output Impedance:

30,000 ohms

7. Output Level:

Approximately 3 volts RMS  
with a -42 dbm input.

25X1

C. Specific (Physical)

1. Size:

5-1/2" x 1-1/2" x 15/16"  
(excluding front panel)

2. Weight:

3-1/4 ounces

3. Input Connector:

IPC 46025

4. Output Connector:

Winchester receptacle SMRE 14S-G

D. Assembly.

1. The amplifiers will be constructed in accordance with the drawings supplied by the contracting organization. The amplifier shall be mounted firmly in the case to prevent damage. Care should be exercised in assembling the units to insure a proper match between the rear receptacle and the fixed plug on the auxilliary recorder.
2. Vibration and shock: Special precaution must be taken in the fabrication of this equipment to insure maximum protection

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from vibration and shock encountered in shipping and field usage by aircraft, motor vehicle, etc.

II. Testing

The completed units will be tested in conjunction with the GFE recorder to insure that the above specifications have been met.

III. Government Furnished Equipment

The following equipment will be supplied to the contractor in support of this work order.

One (1), Video wire recorder w/earphones and microphone

One (1), Complete set of engineering drawings, both mechanical AND electrical

One (1), Instruction book for the Video Recorder unit

IV. Deliverable Items

10 each, transistorized video amplifier units

V. Instructions to the Contractor

The contracting organizations technical representative will be advised of any problems encountered in the fabrication and testing of these units and permission will be obtained from him before any additional funds are expended in connection with this work. Prior to the beginning of any work, the contractor will submit to, and receive approval of, a letter of proposal discussing the approximate cost and delivery date.

VI. Security Classification

The equipment is UNCLASSIFIED, however, the association of the equipment with the contract and/or the contracting organization is classified SECRET.

*will pay always of any unusual parts.*

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